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# Rural Lines

RURAL ELECTRIFICATION ADMINISTRATION • U. S. DEPARTMENT OF AGRICULTURE

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RURAL POWER—AN INVESTMENT IN AMERICA

(See pages 2, 14, 16, 19)



## A Message from the ADMINISTRATOR

President Kennedy has again affirmed his belief that REA continues to have an important job to do. He has requested in his Budget Message to Congress that electric loan funds for fiscal year 1964 be increased to \$425 million as compared to \$400 million in fiscal 1963. He has also requested an adequate amount for telephone loans—\$70 million—and an increase of more than a million dollars for administrative expenses.

Further support of the REA programs by The President is set forth in the closing paragraphs of the Farm Message sent to Congress on January 31.

In the Budget Message, the point is made that "Success in achieving a higher rate of economic growth in the future depends, in large part, on our willingness to devote current resources to enlarging the Nation's capacity to produce goods and services in future years . . ." The Farm Message states that "Rural electrification and rural telephone loans have made enormous contributions to the well-being and economic development of rural America."

Here, I think, is the nub of the issue in any of the current discussions about REA and its borrowers. It is time for all Americans to realize that certain Federal expenditures are truly an investment. REA illustrates the point exceedingly well. No one who looks back upon its history can have the slightest doubt that the Nation has profited mightily by its investment in rural electrification, even if he looks at it solely from the viewpoint of its benefits to private industry—manufacturers of electric equipment and appliances, commercial power suppliers, and a host of related business concerns.

The loans now being made for generating and transmission facilities serve the same purposes—and many more. By assuring adequate power at reasonable cost for the increasing and diversified uses to which electricity is being put in rural areas, these loans are helping to create a more prosperous rural America.

Big as America is, and wealthy as it is, it cannot tolerate any longer the human and social waste implicit in a lagging rate of growth. By investing Federal funds in such vital services as rural electrification we can assure that the America of the future will be as prosperous and healthy as it needs to be.

# Rural Lines

  
Administrator

**Editor: Samuel Levenson**

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# Antique Telephones Should Be Collected, Not Used, Says Telephone Co. President

Mr. V. M. Paul, president of the Taylorstown Telephone Company at Taylorstown, Pennsylvania, can recapitulate the whole history of rural telephony in this country.

He can do it simply by adding together his biography, the history of the company he heads, and his hobby — collecting antique telephones.

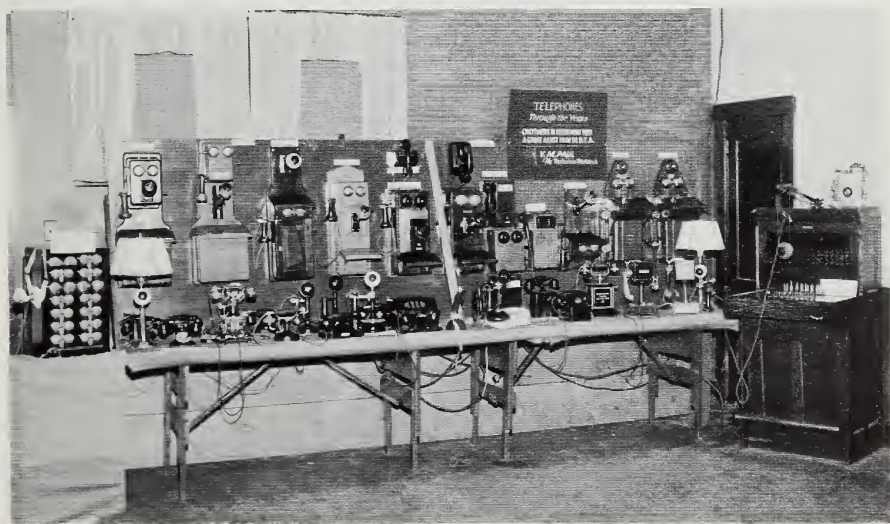
Mr. Paul first became interested in the telephone business in 1904 as a summer employee when his father was managing a small local telephone company. After completing school, the lad assisted his father in the telephone com-

pany when he was not busy working on the farm his father owned.

In 1926 he began working for the Western Union Telegraph Company as a maintenance man. Twenty-one years later, he became manager of the Hickory Telephone Company, Hickory, Pennsylvania. In 1951 he became a foreman with the General Telephone Company of Ohio. Four years later he joined the local group which owns the Taylorstown Company.

As Mr. Paul puts it, "At times it has been rough going but I have no regrets and have enjoyed every minute of it." *(Continued on page 6)*

*These telephones, from the collection of V. M. Paul, date from 1882 to the present. They come from France, Sweden, Germany, Denmark, Switzerland, and the U. S. At extreme left is a magneto switchboard with 14 lines. It was taken out of service in 1904, the same year the switchboard on the extreme right was put into service.*



# RIGHT-OF-WAY AGREEMENT SAVES TREES



An REA electric borrower in Kentucky has initiated a joint program with the U. S. Forest Service which enables the cooperative to extend its lines without damaging the conservation program of the Forest Service.

Both parties call the agreement, possibly the first in the nation, "outstanding," and its extension to other areas is contemplated.

In mid-1962 the South Kentucky Rural Electric Cooperative Corporation, at Somerset, requested permission from the Forest Service to extend its transmission line 21 miles through the Cumberland Forest. Its aim was to serve Lookout Tower at Mt. Victory.

While sympathetic toward the project, Forest Ranger Wayne Ruziska, stationed at Somerset, asked co-op manager Sam J. Hord and his associates to try to work out a plan which would minimize its deleterious effects on the multiple-use conservation program of the Forest Service.

The realities were these: A path 21 miles long and about 40 feet wide would have to be cleared through the forest. This would mean removing a good many trees.

Some ground cover would have to be left on the right-of-way to prevent soil erosion, but it could not be allowed to reach a height that would

threaten the power lines. At this point helicopters usually spray the right-of-way with a poison which temporarily cuts back the unwanted growth. However, this spray almost invariably damages sections of the national forest contiguous to the right-of-way.

The co-op people devised the following plan:

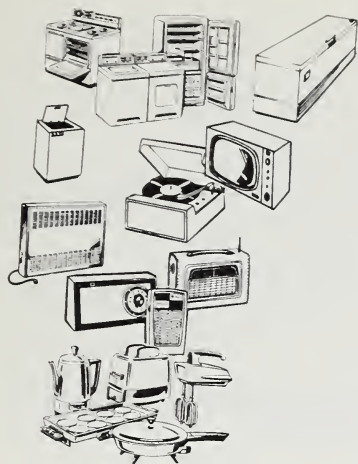
The cooperative would clear the right-of-way and prepare it for planting. The cost of this operation ran between \$17.50 and \$19.00 per acre.

The cooperative further undertook to provide seed and fertilizer, at a cost of about \$9.00 per acre.

The Forest Service then agreed to plant the cleared and prepared right-of-way with clover and cereal grains. This low growth would not prove a threat to the cooperative lines after they were strung. At the same time it would provide adequate protection against soil erosion, and provide food and cover for wild life, thus contributing constructively to the overall conservation program of the Forest Service.

The Service also agreed to keep the right-of-way free of woody plants.

The program has proved so successful that the Forest Service has recommended it to Forest Rangers facing similar problems in other sections of the Nation.



## School for Repairmen

The shortage of qualified appliance repairmen has long been considered like the weather: everyone talks about it but no one does anything about it.

Rural electric cooperatives in Georgia, together with many other groups banded together under the aegis of the Georgia Farm Electrification Council, are doing something about the shortage.

For the second year in a row, they are sponsoring an 11-month appliance service training program. Thirty students were in the first class which was graduated last September, and all are now employed.

The movement started in 1961, when the Georgia Council called a meeting of electric cooperatives, utilities, dealers, distributors, manufacturers, educators, and representatives of independent appliance repair organizations. The aim was to provide a pool of well-trained service men who would keep electrical appliances in working order, either by working for industry or by setting up businesses for themselves.

North Georgia Technical and Vocational School facilities at Clarkesville were made available, a course of study was outlined, and the training school was announced. Three brochures pub-

licized and promoted the course. Additional help came from manufacturers who supplied appliances for laboratory and technical training.

Since some students could not pursue the 11-month training course without financial assistance, the cooperatives, utilities, and the distributor-manufacturer group established a revolving scholarship fund. It was made available to deserving and needy students who would repay the loans when they became gainfully employed. Ten of the students took advantage of the financial assistance offered.

Here is how the financing plan works: the school accepts and processes the application and determines need for a loan. Loan does not exceed charges for room and board (at present \$506 for the 11-month course). Repayment is made in 24 equal monthly installments beginning 6 months after student completes course or leaves school. Student executes a note for amount of loan, interest at 3 percent, to accrue beginning 12 months from the date of the note.

Subjects taught are basic electricity (AC-DC circuits, motors, test instruments); refrigeration (theory, testing, refrigerants, installation, repair); repair and maintenance of air conditioners, ranges, water heaters, washers, dryers, washer-dryer combination, dishwashers; customer relations; and good business practices.

Laboratory equipment includes individual kits for study of basic electricity,



voltage regulation panel, dynamometer used for testing small motors, machine shop equipment such as motor rewinding apparatus, mock-up refrigeration panel constructed by instructors for teaching and testing various components of refrigeration systems, and a cut-away model of a new refrigerator.

In addition to a diploma from the school, a "Standard of Excellence for the Graduate of the Electrical Appliance Servicing Course" is presented to graduates by the Georgia Farm Electrification Council as a reminder of the standards of quality and character set forth in the instructional program

"in the interest of adding dignity and respect to the honorable profession of electrical appliance servicing."

It is hoped that the first trained men will tell the story to others and by their success and example will make the solution of the problem of appliance repair and service in rural areas more easily realized.

The Georgia Council believes that this program can be duplicated in other areas by cooperative, coordinated effort, and that there is no better way in which all segments of the electrical industry can help to provide better service at the local level.

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## **Antique Telephones**

*(Continued from page 3)*

The telephone company was formed at the turn of the century, under the name of the Taylorstown Farmers Telephone Company. When it was sold to a new group of men in 1947, it had 42 subscribers. When the present owners purchased it, in 1955, it had 185 subscribers.

The new owners took immediate steps to improve and extend services provided by their company by applying for an REA loan. It enabled them to modernize and expand the Taylorstown exchange, which now has 362 subscribers, not counting extension stations. It was cut over to dial in November 1958, with 7 toll and 12 extended area service lines to Washington, Pennsylvania.

In the same year the company purchased the Buffalo Telephone Company, proud possessor of 12 subscriber lines and 2 toll lines. To improve and expand this system, a second REA loan

was obtained. The Buffalo exchange now has 220 subscribers, not counting extension stations. It was cut over to dial in October 1959. Additional equipment is constantly being added to keep up with the service demand.

All this, Mr. Paul is ready to admit, would not have been possible without the assistance of REA. "Without it," he says, "our subscribers would not have the quality of telephone service they are enjoying today."

Taking literally the adage that a man's job should be his hobby, Mr. Paul began collecting antique telephones some 40 years ago. His collection was the hit of an REA Telephone Borrowers Conference held last November at Hershey, Pennsylvania. Although he owns telephones from France, Sweden, Denmark, and Switzerland, as well as the United States, he is still searching for his first antique Italian and English telephone.





## Better Kitchen Contest Succeeding in Kentucky

The Kentucky Rural Electric Cooperative Corporation (KRECC) is not the first group to sponsor a "better kitchen" contest, but its program is one of the most successful.

Its success is based on (1) involving all possible groups, particularly more than a hundred home demonstration agents in the State; (2) detailed planning, including the use of "score sheets" and of trained volunteer "scorers"; (3) lavish publicity in the statewide paper, *Rural Kentuckian*, and co-op newsletters; (4) the generosity of manufacturers in providing each year prizes valued at \$3200; and (5) the fervent belief of all of these individuals and groups that thousands of housewives are working in outmoded kitchens which, with a little skill and imagination, could easily be converted into bright, efficient workshops.

The KRECC Kitchen Planning and Improvement Program, now in its third year, is guided by a steering committee consisting of representatives of KRECC, the Kentucky Extension Service, and other Kentucky homemakers. Chairman of the committee is Mrs. Gladys Lickert, home management specialist at the University of Kentucky.

At the kick-off meeting held in 1960, manufacturers and home builders were informed about the aid that could be given by the numerous home demonstration agents in Kentucky, the home economists employed by rural electrification cooperatives, and others skilled in kitchen planning. As one result, 2-day clinics were conducted by a leading manufacturer of electric home appliances for the special benefit of these home economists.

To stimulate interest among housewives, Kentucky Farm and Home Week featured a full day on kitchen planning. Hundreds of Kentucky women learned about the program this way.

*Rural Kentuckian* took up the challenge by issuing a special section on better kitchens and by featuring kitchen copy throughout the year.

Wide distribution of entry blanks and score sheets was made to builders, appliance dealers, building supply firms, and electrical contractors.

The selection of winners depends on the score sheet. In one column are assigned point values, in accordance with research findings, on structure, equipment, arrangement, lighting, etc.

In a second column the scores are recorded after improvements are made. The third column records the differences between the two scores, and the kitchen with the highest number of "improvement points" wins, if all other qualifications are met.

Among items considered are location of doors and windows; construction of floors, walls and ceilings; wiring and lighting; provisions for storage of staple foods and supplies; water supply; fly, vermin, and rodent control; convenience of sink, storage space, and work surfaces; convenience and location of range, utensils and work surfaces; existence of a planning center; and step-saving arrangements.

The score sheet itself is a tool for improving kitchen conditions, for when scorers check her plans and changes, the housewife sees more clearly what needs to be done, and often gets imaginative and practical suggestions from them on how to do it.

Obviously, a key element is the efficiency and skill of the scorers. They are volunteer homemakers who have taken a training course designed and presented by Mrs. Lickert. She conducted 12 of these courses in various parts of the State before the program began. As of last fall, there were 270 of these trained kitchen scorers. They work in their own counties under the direction of the home demonstration agent, and score kitchens upon request of entrants.

After the initial scoring, the homemaker may get detailed assistance with her planning by participating in projects carried on in her Homemakers Club, or from the home demonstration agent. Membership in a club is not a requirement to win a prize but, as a result of the program, homemakers' clubs in more than half of Kentucky's 120 counties have selected kitchen

planning as their major project in club work.

Every entrant who earns 50 or more improvement points receives a parchment signed by representatives of the sponsoring groups testifying to her accomplishment, and is eligible for an award, even though she may be the only entrant from her county.

Prizes are range hoods, portable radios, electric coffee makers, electric irons, electric clocks, kitchen lighting fixtures, automatic electric can openers, and the like.

Persons with the most improvement points from a county which has 15 or more entrants receive a one-day, all expense trip to Louisville, a tour of points of interest related to homemaking, special compliments from industry, and presentation to the audience at the Kentucky State Fair.

The largest prize is, however, her ownership of a kitchen designed to save her many hours of time and labor.

The best available evidence indicates that over 3,000 Kentucky families were helped in improving their kitchens during the first year of the Better Kitchen Awards.

Similar kitchen projects designed to help their members use electricity more effectively have been sponsored at various times by Statewide associations and individual cooperatives. Georgia cooperatives were apparently among the pioneers, beginning in 1957. In Mississippi, an Improvement of Home Workshop contest is sponsored by the Mississippi Home Demonstration Council. In January 1962, the Oklahoma Association of Electric Cooperatives held a meeting of managers, power use employees and other co-op personnel at which a vigorous All-Electric Kitchen and Laundry Power program was launched, with good results.



*Hawkeye Tri-County REC repays obligation to REA. Left to right: Clem Leichtman, vice-president; Leo Birdsell, president; Norman M. Clapp, REA Administrator; C. E. Christensen, manager.*

## Iowa Cooperative Repays REA Loan

Repayment of funds borrowed from REA by the Hawkeye Tri-County Rural Electric Cooperative of Cresco, Iowa, has been announced by its president, Leo L. Birdsell. He termed the action further evidence of the soundness of REA loans.

The final principal and interest payment totaling \$430,629 left an intentional balance of \$1,000 in order to permit the cooperative to retain its status as an active REA borrower.

The total amount borrowed from REA to enable the cooperative to provide central station electricity to inhabitants of Iowa counties of Howard, Winneshiek and Chickasaw was \$2,084,820. The funds were received between 1938, when the cooperative was organized, and 1948.

In addition to repaying this obligation, the cooperative has paid the Federal agency \$418,780 in interest,

and invested \$1.5 million of its own funds, said C. E. Christensen, manager.

Hawkeye will now stress returning cash patronage dividends to the 5,000 consumers who own and control it. When its first line was energized in December 1939, Hawkeye served about 400 members. The membership increased to 2,000 in 1945, and to 4,000 in 1950. It reached the 5,000 mark in 1955.

Hawkeye operates 1,900 miles of rural electric line, with an average of 2.5 consumers per mile. They consume an average of 565 kwh per month as compared with a consumption of only 42 kwh during the early years of the cooperative's operations. This great increase in power consumption was a principal factor in enabling the cooperative to pay off its obligations so far ahead of the due date. Some of the payments were not due until 1983.



# 72-Year-Old Home Goes All-Electric

It has been proved many times that an old home can be converted into an all-electric one.

Carrying this point to an unheard-of extreme, an Indiana electric cooperative bought a dilapidated, 72-year-old farm house, relocated it, remodeled it, and converted it into a trim Gold Medallion home.

It cost Whitley County Rural Electric Membership Corporation, Columbia City, Indiana, only \$3,000 to buy the two-story, frame, "T" shaped farmhouse and a one acre lot five miles south of Columbia City, dig a foundation, and move the structure.

The cost of remodeling, installing wiring and new water and sanitation systems, putting in insulation, kitchen and lighting fixtures, and other features, including an intercommunication system, came to much more than that.

But the house was easily sold for \$12,500, its appraised value.

Two hundred ampere underground service was provided. The annual cost of electric heat per season is estimated at \$193.

The home was completely furnished and landscaped before being shown to the public at three 2-day open houses, with REMC staff members on hand to explain its features.

In addition, each visitor received a brochure detailing points of interest and the retail cost of all changes, fixtures and furnishings.

The booklet pointed out that such a conversion need not be accomplished at once; that older homes could be remodeled a step at a time to achieve the final handsome result.



*Pouring concrete footings for the new foundation*

*Mary Keirn, home service consultant, tries out the new kitchen*





*Making final connections on the 200 amp electrical service.*



*Electrical advisor Bob Barron checks baseboard heating unit.*

*ge controls.*

*Seventy-two years old ... and better than new.*





# CAN FATALITIES BE PREVENTED?

*by John W. Scott, Assistant Administrator, REA*

Recently we had occasion to compile some statistics on the number of fatalities that have occurred on the systems of REA electric borrowers from January 1957 through November 1962. We think it is important that these figures receive the widest possible distribution.

During that time, 111 fatalities were sustained. The rest of the electric light and power industry, although it employs 10 times as many workers, incurred only about 5 times as many fatalities. In other words, the rate at which men working for REA electric borrowers are being killed is twice what it is elsewhere in the industry.

These 111 fatalities occurred in 34 States. One had 10. One had 8, one had 7, one had 6, and 7 other States had 5 fatalities each.

At the same time, not a single fatality occurred in 12 other States and Puerto Rico, all of which contain REA electric borrowers. Their employees worked an average of about 6 million man-hours annually, and performed the same kind of work that employees performed in the 34 other States which did have fatal accidents.

Two conclusions can be swiftly drawn. One, the high fatality rate on systems of REA borrowers is intolerable. Two, the experience of 12 States

and Puerto Rico indicate that it can be corrected.

We in REA have long insisted that the blame lies with management — with managers and directors. No matter how many safety memoranda REA issues, no matter how many job training and safety instructors are in the field, no matter how “foolproof” equipment becomes, the trend will not be reversed until management takes a deep, persistent, genuine interest in this problem.

By this I do not mean that they should increase the amount of exhortation, expostulation, and indignation they direct at linemen and other operations personnel. In the long run “scare” messages do not help. Neither will dramatic, head-on action — if any can be developed.

What I am suggesting is constant, precise, and exacting scrutiny of practices and procedures—persistent, daily examination to see to it that employees not merely receive and read copies of safety regulations, but observe them.

It is a monotonous, unglamorous task. It calls for painstaking never-letting-up-for-a-minute supervision in a war that can never be entirely won. But only in this way, it seems to me, can we make progress in our struggle to lessen this waste of human life.



# A Letter to Consumers:

*(The January 1963 edition of the newsletter issued by the Cooperative Light and Power Association of Lake County, Two Harbors, Minnesota, contains an article addressed to its consumers which describes a practice and attitude that other cooperatives may desire to copy. Co-op manager is William E. Himango. The article, with minor alterations, is reproduced below).*

During the past month, we have visited approximately 25 of our consumer-members in their homes. We expect to visit many more of you in the future.

Our purpose in part is to survey existing electrical equipment and appliances, so that we may plan future power requirements and estimate the need for replacing inadequate facilities.

We are also noting any maintenance work which has to be done, such as tree clearing, replacement of insulators, etc. At the same time, we are checking meter serial numbers, consumer account numbers, rate classifications, and meter readings.

With us when we visit your home are spare fuses, light bulbs, and other equipment to make minor repairs on your defective appliances.

But the most important purpose of these visits is to acquaint you with the fact that this cooperative is owned by you and others like you, and to ascertain your feeling about the cooperative.

We believe that a cooperative, if it is to be successful, must have the loyal support of its consumers, and to obtain this support we must serve you in the best and most efficient manner possible.

When we visit your home, we would like to take enough of your time to explain why the cooperative was organized, and to describe something about its operations and problems.

We also want to obtain your ideas concerning additional services which you feel we could make available, and indeed receive any suggestions you might care to make concerning the operations of your cooperative.

What we hope principally to accomplish by these personal visits is to make you more aware of your cooperative and of the services it makes available to you. We also try to impress upon you your responsibilities to the cooperative — the importance of attending annual and district meetings, for instance.

If at any time — not merely during these visits — you feel that your cooperative is not functioning as it should, we solicit your views.

This is your cooperative. We hope you will make it your business to learn how it operates. The officers, directors and staff are here only to serve you. If you think we are not doing an adequate job, please speak out and let us know how we can do the job better.

# Ten REA-Financed Generating Units Soon to Go Into Operation

Tacked up in the Washington, D. C., office of Ivan Bosman, chief of REA's power plant branch, is a chart of the progress being made in the construction of REA-financed generating units.

An inspection of the chart made in January 1963 shows that three units were scheduled go into operation that month. During the succeeding 7 months, 7 more will be fired up.

Among them are the first gas turbine plants financed by REA loans.

The ten units should add 234,650 kw to America's productive capacity.

"And 'should' is the right word," says Mr. Bosman, "These units consist of many components and no one can guarantee that they will go into operation on schedule.

"However, a few weeks delay here and there does not lessen the significance of this achievement," he adds. "These ten units in so many areas — Texas, Arizona, Illinois, Arkansas, Iowa, and Alaska — all indicate a healthy and necessary trend on the part of rural electric cooperatives toward strengthening and safeguarding their sources of power supply.

"Perhaps I should make one more comment. Even at this rate of construction, there's no likelihood that REA borrowers will be generating more than their present one percent of the total electrical power of the country. We can safely ignore all the much publicized fears to the contrary."

The schedule shows that in January 1963 the South Texas Electric Cooperative expected to put into operation near Victoria two 11,000 kw gas turbine generators. In 1965 a 22,000 kw steam generating unit will complete the 44,000 kw plant.

All these South Texas Electric facilities are being financed by an REA loan of \$14,683,000, which also provides for the construction of 833 miles of transmission line and substation facilities with a total capacity of 91,000 KVA. The new transmission system will tie together nearly all of the load centers of six member cooperatives.

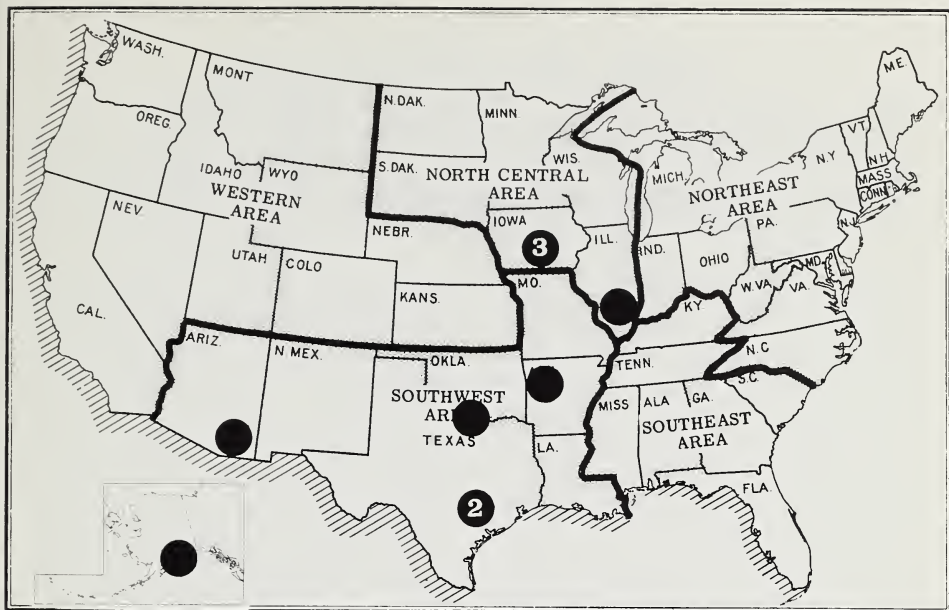
These cooperatives serve 25,160 farm and other rural consumers, whose power requirements in 1960 were 115,000,000 kwh. This consumption is expected to amount to 281,000,000 kwh in 1973.

In January 1963 an 11,000 kw gas turbine generator, at Cochise, Arizona, should be energized. It is owned and will be operated by the Arizona Electric Power Cooperative, Inc., at Benson, Arizona. Part of the \$19,840,000 borrowed from REA by this new generation and transmission federation will finance a 75,000 kw steam generating unit scheduled for completion next year, about 180 miles of transmission line, and two substations with a total capacity of 80,000 KVA.

A three-unit steam generating plant that should be completed in April 1963 is located near Marion, Illinois. The plant, with a total capacity of 99,000 kw, was built by the Southern Illinois Power Cooperative with the aid of a \$25,800,000 loan from REA.

The new plant will fulfill power requirements of the member cooperatives through 1972, at a lower cost of power to the consumer than would be possible under rates offered by existing power sources.

In April 1963 the Arkansas Electric Cooperative Corporation (ARKCO) at North Little Rock should begin operating its first power plant—a 50,000



kw steam generating unit at Ozark, Arkansas. When the \$9.5 million loan from REA was approved in March 1961, the federated generation and transmission cooperative had seven member cooperatives. In October 1962, however, REA loaned an additional \$22.5 million to ARKCO to finance a 100,000 kw steam generating unit in the vicinity of Augusta, Arkansas. When this plant is completed in 1966, ARKCO will serve five additional cooperatives. These 12 cooperatives, which provide central station electric service to 116,883 farm and other rural consumers, are expected to require 250,000 kw by 1975.

Savings in wholesale power costs to ARKCO's member cooperatives will amount to almost \$3 million during the first 10 years of operation.

In May 1963 the Chugach Electric Association at Anchorage, Alaska, will put into operation an oil-fired gas turbine generator of 7000 kw capacity, and waste heat recovery boiler. These facilities are being installed at Bernice Lake on the Kenai Peninsula.

The new generator, together with Chugach's existing generating facilities, will meet the immediate power requirements of the borrower and two other REA-financed systems.

In July 1963 Brazos Electric Power Cooperative at Waco, Texas, should put into operation its third unit—a 33,000 kw steam generating unit in its existing Weatherford generating plant in Parker County. This capacity, added to the 56,000 kw capacity of two existing plants and 23,000 kw expected to be available from the Whitney Dam, will enable Brazos Electric Power Cooperative to meet the power requirements of its 17 member distribution cooperatives in central Texas through 1967. Requirements are expected to reach 112,000 kw by that time.

Also in July 1963, the City of Pella, Iowa, will begin operating a new 12,650 kw steam generating unit at its municipal plant, financed in part by a \$1,750,000 loan from REA. The municipality will thereby be able to meet the increasing power demands of the Pella Cooperative Electric Association, which furnishes power to rural consumers in the four Iowa counties.



# Three Cooperatives Shelve G&T Plans When Commercial Suppliers Trim Rates

The Rural Electrification Administration has approved wholesale power supply contracts that will save three rural electric cooperatives on the Delmarva Peninsula (Delaware, Maryland and Virginia) \$1,400,000 over the next five years. These savings will be shared with 31,000 consumer-members of the cooperatives.

As a result of the favorable contracts, the three rural power distributors are shelving studies toward building a generation and transmission system of their own, estimated to cost approximately \$25 million.

REA finances such systems when they bring about a savings in the cost of power to consumers, when no adequate and dependable supply of power is available, or when the facilities are necessary for the security and effectiveness of the distribution systems.

The new five-year contracts call for delivery of power to the co-ops at a rate of 9.9 mills or less per kwh, against previous costs of 12.2 and 11.2 mills per kwh. The power contracts grew out of negotiations between the cooperatives and their power suppliers, the Delaware Power and Light Company and its subsidiaries, the Eastern Shore Public Service Company of Maryland and the Eastern Shore Public Service Company of Virginia.

The three cooperatives are the Delaware Electric Cooperative, Inc., Greenwood; the Choptank Electric Cooperative, Inc., Denton, Maryland; and the Accomack-Northampton Electric Cooperative, Parksley, Virginia. They

initiated joint studies in 1960 into the possibilities of generating their own power at a cost less than the price they were paying. With the exception of a small reduction in 1961, the cooperatives' wholesale power costs had remained static for 10 years, despite a substantial growth in their power purchases (from 38.8 million kwh in 1951 to 124 million in 1961) and a general decline in wholesale power costs for electric cooperatives in other areas.

"The outcome of these negotiations show what can be accomplished when commercial power suppliers are willing to negotiate in good faith over power arrangements and costs," REA Administrator Normal M. Clapp commented.

"They got down to earnest bargaining before the Delmarva cooperatives went the route in preparing an REA loan application. An agreement that benefited both parties was worked out; the cooperatives obtained a lower rate and the companies succeeded in holding on to three customers who purchase more than \$1,500,000 worth of power each year."

The contracts have also been updated, in the cooperatives' favor, with a new fuel clause. Fuel clauses in previous contracts were based on a fuel economy of 19,000 BTU per kwh, but the new contracts are based on 11,000 BTU per kwh, a ratio more in line with modern generating efficiency. The purpose of the fuel clause is to permit a power supplier to adjust the wholesale rate automatically to reflect changes in the price of fuel used in producing electric energy.

# HIGHLIGHTS OF 1962

The year 1962 was an active one for REA and its borrowers. Some of the highlights are as follows:

## Electric Program

*Power Use Up, Cost Down.* Rural residential consumers used more electricity, found it a better bargain, as average monthly consumption climbed from 375 kwh in 1961 to 400 kwh last year. Average revenue per kwh declined from 2.44 cents in 1961 to 2.39 cents in 1962. The average monthly bill was \$9.54 last year, a 38-cent increase over the 1961 average of \$9.16. Net sales of energy reached 32.1 billion kwh, up 11.5 percent over 1961.

*Power Generated and Purchased.* The 76 electric borrowers generating power in 1962 produced 6.2 billion kwh, an increase of 20.4 percent over 1961. Excluding sales between borrowers, borrower systems purchased 30.6 billion kwh, topping 1961 by 10.9 percent. Total system input (net) was 36.7 billion kwh, an 11.7 percent increase over the 1961 input of 32.9 billion kwh.

*Generating Capacity.* Borrowers had 1,957,950 kilowatts of generating capacity at the end of 1962, representing about 1 percent of the Nation's installed capacity. REA electric borrowers generate just under 17 percent and purchase 83 percent of the power they distribute. By the end of 1962 REA had approved \$1.3 billion in loans for generation and transmission purposes. These will finance about 3,608,500 kw of generating capacity.

*Operating Revenues and Margins.* Operating revenues rose 8.2 percent in 1962 to an estimated total of \$765.8 million. After deductions for expenses, taxes, depreciation and interest, borrowers had estimated net margins of \$105 million, up 12.5 percent.

*Net Worth.* Electric borrowers achieved a net worth of \$858 million by the end of 1962, or 22.2 percent of total assets. Net worth was 21.2 percent of total assets a year earlier.

*Total Loans.* The 1962 loans brought to \$4.8 billion the cumulative total of electric loans approved by REA since 1935. Of this amount, REA had advanced \$4,072,663.014 to borrowers by December 31, 1962.

*Purpose of Loans.* About 43.7 percent of the 1962 loans will finance system improvements and new distribution facilities, and 0.8 percent will finance consumer facilities (Section 5). The remainder, 55.5 percent, is for G&T facilities.

*Repayments.* Electric borrowers paid more than \$203 million on principal and interest during 1962, a 27 percent increase over 1961 payments. At year's end, they had repaid nearly \$1.2 billion on their loan obligations, including \$203.2 million paid ahead of schedule. Interest payments in 1962 totaled \$60.1 million, bringing the cumulative total of interest paid by electric borrowers to more than \$563 million.

*Consumers and Miles of Line.* The 1962 loans brought to 5,620,000 the number of farmers and other rural consumers served and scheduled to be served by electric borrowers. Of the 1,540,500 miles of line financed by REA loans to date, 1,503,000 miles have been placed in service. This means an average density of 3.4 consumers per mile, about one-tenth the density on commercial power company systems in the U. S.

*Percent of Farms Electrified.* The year ended with only 2 percent of the Nation's farms without central station electric service, compared with 89 percent unserved in 1935 when REA began. The small annual increase in percent of farms electrified, from 97

percent at the end of 1961 to 98 percent on December 31, 1962, indicates the difficulties encountered in bringing service to remote, isolated farms. REA-financed facilities serve slightly more than half of the present electrified farms, as well as about 3 million non-farm consumers.

### **Telephone Program**

*Loans and Advances.* Telephone loans made by REA in 1962 brought to \$930.4 million the cumulative total of loans approved under this program. Of this amount, \$752.1 million has been advanced to the borrowers.

*Subscribers and Miles of Line.* The loans will finance new or improved service to a total of 1,782,000 subscribers. Of the 450,600 miles of line financed by the loans, 350,000 miles were in operation on December 31, 1962.

*Repayments.* During the year, telephone borrowers paid \$27.8 million to the Government on the principal and interest of their REA loans. This included \$1.1 million paid ahead of schedule. Since 1949, when Congress authorized the telephone loan program, the telephone borrowers have repaid \$51.5 million of principal, including \$7 million paid ahead of schedule. They also have paid \$44.0 million in interest.

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## **Notes on New and Revised Bulletins:**

*(Copies of these publications are sent automatically to each electric and telephone borrower as they are issued. Directors and others interested in seeing single copies may obtain them without charge by writing the Rural Electrification Administration, U.S. Department of Agriculture, Washington 25, D. C. Also available are current lists of all REA telephone and electric publications.)*

### **NEW BULLETINS:**

402-1 (12/31/62), "Mortgage Restrictions on Dividends and Other Distributions—Telephone Borrowers." Revises REA policy statements concerning allowable dividends and other distributions in accordance with the REA mortgages currently effective.

### **REVISED BULLETINS:**

1-1 (December 1962), "Annual Statistical Report—Rural Electrification Borrowers." Presents calendar 1961 financial and statistical data for rural electrification borrowers.

300-4 (December 1962), "Annual Statistical Report—Rural Telephone Program." Presents calendar 1961 financial and statistical data for rural telephone borrowers.

385-1 (12/7/62), "Preloan Procedures and Requirements for Two-Way Radiotelephone Service." Describes preloan procedures and requirements for the two-way radiotelephone portion of a telephone system.

307-1 (1/4/63), "Telephone Operations Manual." Describes current REA policy concerning use of the Telephone Operations Manual.

41-1 (1/8/63), "Engineering Services for Electric Borrowers." Revises REA policy concerning engineering services retained by borrowers, including provisions for inspection and certification of completed construction.



# Pooling Project To Assure Power Supply

Associated Electric Cooperative, created last summer at Springfield, Missouri, does not own any transmission line, generating stations, or, indeed, any electric facilities.

But it will assure six generating and transmission cooperatives sufficient low-cost power to meet requirements that will total some 562,000 kilowatts by 1972.

The new organization illustrates the benefits to be derived from pooling power resources of commercial, public, and cooperative systems, a step advocated in recent speeches by several REA officials.

Associated was created to coordinate a power supply plan developed by six G&T cooperatives in conjunction with the Southwestern Power Administration and three commercial companies: Kansas City Power and Light, Missouri Public Service, and The Empire District Electric Company.

Five of the cooperatives are located in Missouri: N.W. at Cameron; Central at Jefferson City; M & A at Poplar Bluff; Sho-Me at Marshfield; and Northeast Missouri at Palmyra. The sixth is KAMO at Vinita, Oklahoma, whose Missouri system is integrated into the Associated system.

Under the plan, the output of the members' thermal generating units will be pooled and made available to Associated, although the member cooperatives will continue to own, operate and maintain them. In addition, the members will make available to Associated the capacity of their existing and new 161 kilovolt transmission facilities, the latter to be largely financed by an REA loan approved July 1962.

These lines will be tied in with those

of the same capacity operated by the Southwestern Power Administration and the three commercial companies, forming an integrated transmission system interconnecting all of the member cooperatives.

Associated and the commercial companies will pool 478,000 kilowatts of hydro peaking capacity which will be purchased from SPA. Associated will draw from this pool the power needed to meet a portion of its peaking requirements, in accordance with its agreements with the companies and SPA. The companies, in turn, will furnish Associated with supplemental energy. Power will be delivered by Associated to its member's load centers over the 161 KV lines, and 69 KV facilities of the member cooperatives.

According to REA, this pooling method of operation is the most economical and practical way of meeting the wholesale power requirements of the six member cooperatives. In addition, it establishes a firm basis for obtaining power in sufficient quantity and at reasonable cost to meet the future requirements of the member cooperatives which provide power for 41 REA-financed distribution cooperatives serving 245,600 farm and other rural consumers in Missouri and Iowa.

REA has backed its conviction with a loan of almost \$8 million to enable four of the Missouri borrowers to build 145 miles of 161 KV transmission line, one 50,000 KVA substation, four, 25,000 KVA substations, and related electric facilities. In addition, it has loaned \$250,000 to Associated Electric Cooperative to finance the construction of a building near Springfield, Missouri, to house its power dispatcher facilities, accounting, engineering and management staff. Storage and ground space also will be provided.

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Jim Berkey, 23, of Goshen, Indiana, is one of 1500 Peace Corps volunteers in Latin America. His particular task is helping Chilean farmers set up rural cooperatives. Persons with a background in agriculture and cooperatives who may be interested in service of this nature are urged to write Jim Gibson, Chief, Division of Agricultural Affairs, Peace Corps, Washington 25, D. C.